



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/EP99/01006 <b>(22) International Filing Date:</b> 16 February 1999 (16.02.99) <b>(30) Priority Data:</b> 98200493.9      17 February 1998 (17.02.98)      EP <b>(71) Applicant (for all designated States except US):</b> SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V. [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> DE BIE, Johan, Hen- drik [NL/NL]; Badhuisweg 3, NL-1031 CM Amsterdam (NL). DIRKZWAGER, Hendrik [NL/NL]; Badhuisweg 3, NL-1031 CM Amsterdam (NL). OVERTOOM, Robertus, Raymundus, Maria [NL/NL]; Chemieweg 25, NL-4782 SJ Moerdijk (NL). VAN ZWIENEN, Marinus [NL/NL]; Bad- huisweg 3, NL-1031 CM Amsterdam (NL).		<b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i>
<b>(54) Title:</b> PROCESS FOR PREPARING STYRENES  <b>(57) Abstract</b>  Process for the preparation of styrene or substituted styrenes comprising the steps of: (a) subjecting the 1-phenyl ethanol or substituted 1-phenyl ethanol to a dehydration treatment in the presence of a suitable dehydration catalyst, (b) subjecting the resulting product stream to a separation treatment, thus obtaining a stream containing styrene or substituted styrene and a residual fraction containing heavy ends, and (c) converting at least part of these heavy ends to styrene or substituted styrenes by subjecting a stream containing these heavy ends to a cracking treatment in the presence of an acidic cracking catalyst. Process for converting bis(phenyl ethyl)ethers into styrene or substituted styrene, which process comprises contacting the bis(phenyl ethyl)ethers with a catalyst comprising amorphous silica-alumina at elevated temperature.		